**? SHOW FILES**

```
File 350:Derwent WPIX 1963-2010/UD=201041
         (c) 2010 Thomson Reuters
File 347:JAPIO Dec 1976-2010/Feb(Updated 100525)
         (c) 2010 JPO & JAPIO
```

**? DS**

```
Set     Items   Description
S1    2110585   GLASS OR CRYSTAL? ? OR CERAMIC? ? OR HYDROXYAPATITE? ?
OR HYDROXYLAPATITE? OR BIOCERAMIC? ? OR DURAPATITE? ?
S2     317826   QUARTZ? OR DIAMOND? OR SAPPHIRE? ? OR TOPAZ? OR
AMETHYST? OR ZIRCON? OR AGATE? ? OR GRANITE? ? OR SPINEL? ? OR FIANITE?
? OR TANZANITE? ? OR TOURMALINE? ?
S3     547346   S1(5N)(LIQUID? OR FLUID? OR HEATED OR PREHEAT? OR
MELTED OR PREMELT? OR LIQUEF? OR PRELIQUEF? OR PRELIQUID? OR PREFLUID?)
S4       7404   S2(5N)(LIQUID? OR FLUID? OR HEATED OR PREHEAT? OR
MELTED OR PREMELT? OR LIQUEF? OR PRELIQUEF? OR PRELIQUID? OR PREFLUID?)
S5     553081   S3 OR S4
       LIMITALL S5
S6        542   BONE OR BONES
S7       1533   TEETH OR TOOTH
S8         49   HARD()TISSUE? ? OR CARTILAG?
S9       2201   SKELETON? OR VERTEBRA? OR FEMUR? ? OR COCCY??? OR ULNA?
? OR HUMER?? OR TIBIA? ? OR FIBULA? ? OR SACRUM OR SACRA OR SPINE OR
SPINES OR BACKBONE? ?
S10      4153   S6:S9
S11     44840   S5(7N)(POUR? OR BRUSH? OR PAINT? OR LAMINAT? OR COAT?
OR FILL OR FILLS OR FILLED OR FILLING OR SPRAY? OR APPLY? OR APPLIE? ?
OR SPRAYCOAT?)
S12        40   S11(7N)S10
S13       393   FLAMESPRAY? OR PLASMASPRAY? OR THERMALSPRAY? OR (FLAME
OR PLASMA OR THERMAL)(2W)SPRAY?
S14         1   S10(7N)S13
S15         1   S14 NOT S12
S16       726   S10/TI
S17        76   (S3 OR S4)(7N)S13
S18         1   S17 AND S10
S19         0   S18 NOT (S14 OR S12)
S20       304   IC=A61C?
S21         5   S13 AND S20
S22       161   S13 AND S11
S23         2   S21 NOT (S18 OR S14 OR S12)
S24       157   S22 NOT (S21 OR S18 OR S14 OR S12)
S25        52   S20 AND S11
S26        45   S25 NOT (S22 OR S21 OR S18 OR S14 OR S12)
```

**? LOG OFF**

12/25,K/4 (Item 4 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0019139330
WPI Acc no: 2009-H01130/200940
**Partially strengthening wear resistance of mechanical part of bionic ceramic skeleton involves arranging bionic ceramic skeleton on wear-resistant mechanical part, which is fixed at bottom of casting mold**
Patent Assignee: UNIV JILIN (UYJI)
Inventor: GAO F; ZHAO Y; ZHOU H

Patent Family ( 1 patents, 1 countries )

| Patent Number | Kind | Date | Update | Type |
|---|---|---|---|---|
| CN 101391297 | A | 20090325 | 200940 | B |

Local Applications (no., kind, date): CN 200810051363 A 20081031
Priority Applications (no., kind, date): CN 200810051363 A 20081031

**Alerting Abstract** CN A
NOVELTY - Partially strengthening wear resistance of mechanical part involves arranging bionic ceramic skeleton on the wear-resistant mechanical part, which is fixed at a bottom of casting mold. A molten metal is casted into the casting mold at 50-100(deg) C under the action of gravity or pressure. The casting temperature is increased by 100, when the diameter of the ceramic skeleton is between 6-10 mm. A casting pressure, which is 3-5 atmospheric pressures, is used, when the diameter of the ceramic skeleton is less than 6 mm.
DESCRIPTION - Partially strengthening wear resistance of mechanical part involves arranging bionic ceramic skeleton on the wear-resistant mechanical part, which is fixed at a bottom of a casting mold. A molten metal is casted into the casting mold at 50-100(deg) C under the action of gravity or pressure. The casting temperature is increased by 100, when the diameter of the ceramic skeleton is between 6-10 mm. A casting pressure, which is 3-5 atmospheric pressures, is used, when the diameter of the ceramic skeleton is less than 6 mm. The molten metal is entered into the ceramic skeleton to coat it. A compound material area of ceramic skeleton is formed.
USE - Method for partially strengthening wear resistance of mechanical part of bionic ceramic skeleton (claimed).
ADVANTAGE - The wearing resistance partial strengthening of mechanical part of bionic ceramic skeleton method is simple, reliable, cost-effective, improves production efficiency by 10 percent, and improves wear resistance of mechanical part by 1-3 times.

Original Publication Data by AuthorityArgentina**Publication No.** ...**Original Abstracts:**casting mould through gravity or pressure; under the action of gravity or

pressure, the metal **liquid** is entered into the **ceramic skeleton** and **coats** it; after a step of solidifying, the compound material area of ceramic skeleton in a... ...**Claims:**casting mould through gravity or pressure; under the action of gravity or pressure, the metal **liquid** is entered into the **ceramic skeleton** and **coats** it; after a step of solidifying, the compound material area of ceramic skeleton in a...

12/25,K/6 (Item 6 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0018932770 *Drawing available*
WPI Acc no: 2009-H26114/200928
**Customized porosity bone substitute molding method, involves molding porosity bone substitute, coating porosity bone substitute with ceramic slurry, heating ceramic coated bone substitute, and sintering remaining ceramics**
Patent Assignee: CORENTEC CO LTD (CORE-N)
Inventor: BYUNG SOO K; JUNG SUNG K; KIM Y S; LEE U J; SUN D H; TAE JIN S

Patent Family ( 2 patents, 1 countries )

| Patent Number | Kind | Date | Update | Type |
|---|---|---|---|---|
| KR 2009003916 | A | 20090112 | 200928 | B |
| KR 884405 | B1 | 20090218 | 200928 | E |

Local Applications (no., kind, date): KR 200767689 A 20070705; KR 200767689 A 20070705
Priority Applications (no., kind, date): KR 200767689 A 20070705

**Alerting Abstract** KR A
NOVELTY - The method involves molding a porosity bone substitute in a rapid prototyping machine. The porosity **bone** substitute is **coated** with ceramic slurry, and the **ceramic coated bone** substitute is **heated**. Remaining **ceramics** are sintered, and **hydroxyapatite** is **coated** on the ceramic **coated bone** substitute. Outer shape of the **bone** substitute is based on image data that form a film of a brain damage part of a patient, and the porous structure of the bone substitute is designed. Fluorapatite is coated on the ceramics bone substitute to suppress interfacial reaction.
DESCRIPTION - An INDEPENDENT CLAIM is also included for a customized porosity bone substitute.
USE - Customized porosity bone substitute (claimed) molding method.
ADVANTAGE - The method enables coating hydroxyapatite on the ceramic coated bone substitute, thus promoting growth of osteoblast. The ceramics bone substitute is coated with fluorapatite, thus raising coherence between the hydroxyapatite and the ceramics bone substitute.
DESCRIPTION OF DRAWINGS - The drawing shows a flowchart illustrating steps

involved in a customized porosity bone substitute molding method.'(Drawing includes non-English language text)'

12/25,K/7 (Item 7 from file: 350)
DIALOG(R)File 350: Derwent WPIX

0018878575
WPI Acc no: 2009-G25074/200925
**^Composition, useful for whitening tooth, comprises whitening agent, hydrophilic phase comprising water, hydrophobic phase comprising oil, surfactant e.g. anionic surfactants, and water-soluble co-solvent e.g. ethanol**
Patent Assignee: NARASIMHAN S (NARA-I); SHARMA D (SHAR-I); MCNEIL-PPC INC (MCNI)
Inventor: NARASIMHAN S; SHARMA D

Patent Family ( 5 patents, 42 countries )

| Patent Number | Kind | Date | Update | Type |
|---|---|---|---|---|
| US 20090081136 | A1 | 20090326 | 200925 | B |
| EP 2047889 | A1 | 20090415 | 200926 | E |
| CA 2639742 | A1 | 20090324 | 200927 | E |
| JP 2009102308 | A | 20090514 | 200933 | E |
| AU 2008224340 | A1 | 20090409 | 200952 | E |

Local Applications (no., kind, date): US 2007859953 A 20070924; EP 2008253098 A 20080923; CA 2639742 A 20080923; JP 2008242726 A 20080922; AU 2008224340 A 20080924
Priority Applications (no., kind, date): US 2007859953 A 20070924

**Alerting Abstract** US A1
NOVELTY - Tooth whitening composition (I) comprises: a whitening agent to whiten teeth; a hydrophilic phase comprising water; a hydrophobic phase comprising an oil; a surfactant comprising anionic, nonionic, amphoteric and zwitterionic surfactants; and a water-soluble co-solvent having a Hildebrand solubility parameter above 12 (cal/cm $^{3}$ )(1/2), where (I) is in a form of a liquid crystal and a microemulsion.
DESCRIPTION - An INDEPENDENT CLAIM is included for a method for whitening teeth comprising applying (I) to the teeth for a period of time and under conditions to whiten the teeth.
USE - (I) is useful for whitening tooth.
ADVANTAGE - (I) is chemically and physically stable. (I) provides positive consumer experience. (I) is substantially transparent or translucent.

Original Publication Data by AuthorityArgentina**Publication No. ...Original Abstracts:**Hildebrand solubility parameter above 12 (cal/cm3)1/2, as well as methods for whitening **teeth** including **applying** the **liquid crystal** or microemulsion composition to the **teeth** for a period of time and under conditions effective to whiten the teeth... ... Hildebrand solubility parameter above 12 (cal/cm3)1/2, as well as methods for whitening **teeth** including **applying** the **liquid crystal** or microemulsion composition to the **teeth** for a period of time and under conditions effective to whiten the teeth.

12/25,K/10 (Item 10 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0017228180 *Drawing available*
WPI Acc no: 2008-A48610/200803
Related WPI Acc No: 2008-J18792
XRPX Acc No: N2008-037390
**Implant for contacting with a bone during e.g. prosthetic surgery, comprises metal structure having a surface with a ceramic coating containing hydroxyapatite and silver ions that gradually leach out in body fluids after implantation**
Patent Assignee: ACCENTUS PLC (ACCE-N)
Inventor: LEWIS D R; PICKFORD M E L; PRENTICE T C; TURNER A D; LEWIS D; PICKFORD M; PRENTICE T; TURNER A

Patent Family ( 10 patents, 120 countries )

| Patent Number | Kind | Date | Update | Type |
|---|---|---|---|---|
| WO 2007144667 | A2 | 20071221 | 200803 | B |
| WO 2007144667 | A3 | 20080731 | 200851 | E |
| EP 2026852 | A2 | 20090225 | 200918 | E |
| KR 2009017693 | A | 20090218 | 200919 | E |
| AU 2007258948 | A1 | 20071221 | 200943 | E |
| CN 101466414 | A | 20090624 | 200945 | E |
| IN 200806807 | P4 | 20090327 | 200951 | E |
| US 20090198344 | A1 | 20090806 | 200952 | E |
| CA 2654235 | A1 | 20071221 | 200955 | E |
| JP 2009539532 | W | 20091119 | 200976 | E |

Local Applications (no., kind, date): WO 2007GB50327 A 20070611; EP 2007733748 A 20070611; WO 2007GB50327 A 20070611; WO 2007GB50327 A 20070611; KR 2009700284 A 20090107; AU 2007258948 A 20070611; CN 200780021898 A 20070611; WO 2007GB50327 A 20070611; WO 2007GB50327 A 20070611; IN 2008CN6807 A 20081211; WO 2007GB50327 A 20070611; US 2008304441 A 20081211; CA 2654235 A 20070611; WO 2007GB50327 A 20070611; CA 2654235 A

20081203; WO 2007GB50327 A 20070611; JP 2009514915 A 20070611
Priority Applications (no., kind, date): GB 200611437 A 20060612; GB 2007713 A 20070115

**Alerting Abstract** WO A2
NOVELTY - An implant useful for contacting with a bone, comprises a metal structure (10) having at least a part (15) of its surface provided with a ceramic coating containing hydroxyapatite, where the ceramic coating contains silver ions that gradually leach out into body fluids after implantation. The part of the implant which is to be in contact with the bone, preferably has a rough surface, and the rough surface is provided with the ceramic coating.
DESCRIPTION - An implant useful for contacting with a bone, comprises a metal structure (10) having at least a part (15) of its surface provided with a ceramic coating containing hydroxyapatite, where the ceramic coating contains silver ions that gradually leach out into body fluids after implantation. The part of the implant which is to be in contact with the bone, preferably has a rough surface, and the rough surface is provided with the ceramic coating. The metal of metal structure is titanium. The surface of metal structure is preferably a hard oxide surface in which small pits of ion absorbent material are present, where the ion absorbent material includes ions of biocidal material that are incorporated by ion exchange. An INDEPENDENT CLAIM is included for a method of making the implant involving depositing a ceramic coating containing hydroxyapatite, on at least a part of the surface of the metal structure, by thermal spraying using a plasma spray system; and incorporating silver ions into the deposited ceramic coating, preferably via ion exchange, by immersing the coated implant in a solution containing silver ions, where the silver ions gradually leach out into body fluids after implantation.
USE - As an implant for contacting with a bone (claimed); useful in surgical procedure; useful for replacing a cancerous bone during prosthetic surgery; and useful as a proximal tibia prosthesis.
ADVANTAGE - The hydroxyapatite coating improves bone ingrowth on the implant. Silver is a biocidal material, which is gradually leached into body fluids after implantation. Thus, the presence of silver in the hydroxyapatite coating on the implant, suppresses collagenous in-growth, without inhibiting bone in-growth.
DESCRIPTION OF DRAWINGS - The figure shows a side view of an implant useful as a proximal tibia prosthesis.
10 metal structure of implant
12 upper part of metal structure
13 upper end of metal structure
14 lower part of metal structure
15 surface part of metal structure having a ceramic coating containing hydroxyapatite and silver ions.

12/25,K/11 (Item 11 from file: 350)
DIALOG(R)File 350: Derwent WPIX

0016023399
WPI Acc no: 2006-555029/200657
XRAM Acc no: C2006-173202
**Liquid crystal phase teeth whitening agent having proper ability whitening teeth by being coated at teeth**
Patent Assignee: LG HOUSEHOLD & HEALTHCARE LTD (GLDS)
Inventor: CHANG S Y; KIM J H; KIM J Y; SONG J Y; YUN S Y

Patent Family ( 2 patents, 1 countries )

| Patent Number | Kind | Date | Update | Type |
|---|---|---|---|---|
| KR 2005046050 | A | 20050518 | 200657 | B |
| KR 782709 | B1 | 20071205 | 200843 | E |

Local Applications (no., kind, date): KR 200380028 A 20031113; KR 200380028 A 20031113
Priority Applications (no., kind, date): KR 200380028 A 20031113

**Alerting Abstract** KR A
NOVELTY - A liquid crystal phase teeth whitening agent having proper ability whitening the teeth by being coated at the teeth, being capable of coating easily preparation at wanted portion in oral cavity, adhering and fixing the preparation to the teeth and emitting during a long time is provided.
DESCRIPTION - The **liquid crystal** phase **teeth** whitening agent is **coated** at the **teeth** and whitens the **teeth**. The liquid crystal phase teeth whitening agent contains gricerol mono oleate, polymer, peroxide and solvent. The polymer is polyvinyl alcohol, poloxamer, polyvinylpyrrolidone, polyvinyl pyrrolidone/vinyl acetate copolymer, hydroxypropyl cellulose, hydroxypropylmethyl cellulose, hydroxyethyl cellulose, hydroxypropylethyl cellulose, polyox, carboxymethyl cellulose, carboxypropyl cellulose, xanthan gum, gelatin, polyacrylic acid, carbopol, polyquaternium-11, polyquaternium-39, PVM/MA copolymer.(c) KIPO 2006Image 0/0

**Alerting Abstract** DESCRIPTION - The **liquid crystal** phase **teeth** whitening agent is **coated** at the **teeth** and whitens the **teeth**. The liquid crystal phase teeth whitening agent contains gricerol mono oleate, polymer, peroxide and solvent...

12/25,K/12 (Item 12 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0015686860 *Drawing available*
WPI Acc no: 2006-250936/200626
XRAM Acc no: C2006-081723

**Temporary cosmetic dental coating for teeth, comprises transparent resin matrix formed from liquid composition, and glass microspheres embedded within transparent resin matrix by mixing glass microspheres into liquid composition**

Patent Assignee: HURWITZ M M (HURW-I); NARASIMHAN D (NARA-I); I DID IT INC (IDID-N)
Inventor: HURWITZ M M; NARASIMHAN D

| Patent Family ( 3 patents, 110 countries ) | | | | |
|---|---|---|---|---|
| **Patent Number** | **Kind** | **Date** | **Update** | **Type** |
| US 20060063853 | A1 | 20060323 | 200626 | B |
| WO 2006034493 | A2 | 20060330 | 200626 | E |
| US 7214262 | B2 | 20070508 | 200731 | E |

Local Applications (no., kind, date): US 2004949430 A 20040923; WO 2005US34383 A 20050923; US 2004949430 A 20040923
Priority Applications (no., kind, date): US 2004949430 A 20040923

**Alerting Abstract** US A1
NOVELTY - A temporary cosmetic dental coating (12), comprises a transparent resin matrix (13) formed from liquid composition; and glass microspheres (14) embedded within the transparent resin matrix by mixing glass microspheres into liquid composition to thus form a mixture adapted to be painted onto unetched teeth surfaces. The glass microspheres have refractive index greater than that of transparent resin matrix, and reflecting incident light (16).
DESCRIPTION - A temporary cosmetic dental coating, comprises a transparent resin matrix formed from liquid composition; and glass microspheres embedded within the transparent resin matrix by mixing glass microspheres into liquid composition to thus form a mixture adapted to be painted onto unetched teeth surfaces. The glass microspheres have refractive index greater than that of transparent resin matrix, and reflecting incident light by total internal reflection. The temporary cosmetic dental coating can be readily applied and removed by the user.
An INDEPENDENT CLAIM is also included for a process for applying a temporary cosmetic dental coating, comprising:

1. selecting a liquid composition selected from a methyl methacrylate monomer or bisphenol A-glycidyl methacrylate (BIS-GMA) methacrylic monomer;
2. mixing the liquid composition with ethyl alcohol to control viscosity of the temporary cosmetic dental coating;
3. adding glass microspheres coated with resin hardeners appropriate to the methacrylate resin;
4. mixing the **liquid** composition comprising **glass** microspheres to initiate the resin hardening reaction;
5. **coating** the surfaces of the **teeth** with the mixed liquid composition;
6. smoothening the coating surface; and

7. immobilizing the coated teeth surfaces for a few minutes to facilitate completion of the hardening reaction and production of the temporary cosmetic dental coating, the temporary cosmetic dental coating being readily applied to unetched teeth and removed by prying with a dental pick.

USE - Used as temporary cosmetic dental coating for teeth.
ADVANTAGE - The temporary coating could be safely applied by the user, at home, in a matter of minutes, to enhance reflectivity and appearance of the teeth. The coating comprises non-toxic components. The dental coating can be applied by the user without any etching of the teeth dentin surface. The bond of the temporary cosmetic dental coating is weak and can be flaked off or dissolved at will without damaging the teeth dentin surface.
DESCRIPTION OF DRAWINGS - The figure is a schematic diagram of a temporary cosmetic dental coating having a single array of glass microspheres embedded in a lower refractive index resin, showing the reflection of incident light.
11 Dental surface
12 Temporary cosmetic dental coating
13 Transparent resin matrix
14 Glass microspheres
16 Incident light



0014500111 *Drawing available*
WPI Acc no: 2004-682027/200467
XRPX Acc No: N2004-540827

**Denture is coated with room-temperature-setting liquid glass, and has teeth, metal, and gum coated with hyaline membrane**

Patent Assignee: NAGAKUBO I (NAGA-I)
Inventor: NAGAKUBO I

Patent Family ( 1 patents, 1 countries )

| Patent Number | Kind | Date | Update | Type |
|---|---|---|---|---|
| JP 2004267721 | A | 20040930 | 200467 | B |

Local Applications (no., kind, date): JP 2003108421 A 20030306
Priority Applications (no., kind, date): JP 2003108421 A 20030306

**Alerting Abstract** JP A

NOVELTY - The denture (1) is **coated** with a room-temperature-setting **liquid glass** (2). In addition, the **teeth**, gum (3) and metal (4) of the denture are coated with hyaline membrane.
USE - Denture.
ADVANTAGE - Prevents deterioration and bacteria growth, thus fresh and neat impression is achieved.
DESCRIPTION OF DRAWINGS - The figure shows the explanatory drawing of upper denture. (Drawing includes non-English language text).
1 Denture
2 Room-temperature-setting liquid glass
3 Gum
4 Metal

**Denture is coated with room-temperature-setting liquid glass, and has teeth, metal, and gum coated with hyaline membrane Alerting Abstract** ...NOVELTY - The denture (1) is **coated** with a room-temperature-setting **liquid glass** (2). In addition, the **teeth**, gum (3) and metal (4) of the denture are coated with hyaline membrane.

12/25,K/28 (Item 28 from file: 350)
DIALOG(R)File 350: Derwent WPIX

0005446025 *Drawing available*
WPI Acc no: 1991-045901/199107
XRAM Acc no: C1991-019443
XRPX Acc No: N1991-035755
**^Dental restoration has ceramic basal layer formed by flame spraying - alumina, zirconia or titania and coated with several layers of porcelain, body has improved shape retention and strength**
Patent Assignee: EVANS P A (EVAN-I); HARRISON P (HARR-I)
Inventor: EVANS P A; HARRISON P

| Patent Family ( 10 patents, 18 countries ) | | | | |
|---|---|---|---|---|
| **Patent Number** | **Kind** | **Date** | **Update** | **Type** |
| EP 412778 | A | 19910213 | 199107 | B |
| NO 199003411 | A | 19910211 | 199115 | E |
| CA 2022698 | A | 19910210 | 199117 | E |
| FI 199003935 | A | 19910210 | 199119 | E |
| JP 3218746 | A | 19910926 | 199145 | E |
| US 5104319 | A | 19920414 | 199218 | E |
| EP 412778 | B1 | 19940518 | 199420 | E |
| DE 69008970 | E | 19940623 | 199426 | E |
| CA 2022698 | C | 20000125 | 200025 | E |
| JP 3100390 | B2 | 20001016 | 200054 | E |

Local Applications (no., kind, date): EP 1990308681 A 19900807; JP 1990213584 A 19900809; US 1990561771 A 19900802; EP 1990308681 A 19900807; DE 69008970 A 19900807; EP 1990308681 A 19900807; CA 2022698 A 19900803; JP 1990213584 A 19900809
Priority Applications (no., kind, date): GB 198918178 A 19890809

**Alerting Abstract** EP A
Base layer of predetermined thickness is formed by flame spraying in mfr. of dental restoration. Flame spraying is pref. by direct or indirect technique using free flowing powder or liq. contg. technical ceramic which is one or more of alumina, zirconia and titania and opt. includes small amts. of silicate based material. Plurality of porcelain layers is pref. applied to base which is opt. first heat treated.
ADVANTAGE - Restoration has improved shape retention compared to sintering moulded shapes, and strength is greater than prior porcelain-based materials. @(6pp Dwg.No.1/1)@

Original Publication Data by AuthorityArgentina**Publication No.** ...**Claims:**steps of forming a base layer (6) of predetermined thickness of said restoration by flame **spraying** a free flowing powder or **liquid** incorporating a technical **ceramic** based material onto a thin **layer** covering a refractory **tooth** positive target and post heat treating said base layer, characterised in that said post heat...

14/25,K/1 (Item 1 from file: 350)
DIALOG(R)File 350: Derwent WPIX

0009685519
WPI Acc no: 1999-105731/199909
Related WPI Acc No: 1999-105951
XRAM Acc no: C1999-031533
XRPX Acc No: N1999-076313

**Dental restoration process - using flame spraying of a base layer onto a refractory model of the tooth, the model being cooled and then burnt out**

Patent Assignee: EVANS P A (EVAN-I); HARRISON P (HARR-I); TECHCERAM LTD (TECH-N); YOUNG N R I (YOUN-I)
Inventor: EVANS P A; HARRISON P; YOUNG N R I

Patent Family ( 9 patents, 20 countries )

| Patent Number | Kind | Date | Update | Type |
|---|---|---|---|---|
| WO 1999001081 | A1 | 19990114 | 199909 | B |
| EP 991369 | A1 | 20000412 | 200023 | E |
| US 6291378 | B1 | 20010918 | 200157 | E |
| EP 991369 | B1 | 20020116 | 200212 | E |
| JP 2002507143 | W | 20020305 | 200220 | E |
| DE 69803182 | E | 20020221 | 200221 | E |
| US 6398990 | B1 | 20020604 | 200242 | E |
| US 20020079600 | A1 | 20020627 | 200245 | E |
| ES 2172161 | T3 | 20020916 | 200270 | E |

Local Applications (no., kind, date): WO 1998GB1921 A 19980630; EP 1998932329 A 19980630; WO 1998GB1921 A 19980630; US 1999468395 A 19991220; EP 1998932329 A 19980630; WO 1998GB1921 A 19980630; WO 1998GB1921 A 19980630; JP 1999506647 A 19980630 ; DE 69803182 A 19980630; EP 1998932329 A 19980630; WO 1998GB1921 A 19980630; WO 1998GB1921 A 19980630; US 1999467427 A 19991220; US 1999467427 A 19991220; EP 1998932329 A 19980630
Priority Applications (no., kind, date): GB 199713899 A 19970702

**Alerting Abstract** WO A1
A method for the production of a dental restoration by forming a model of a tooth in refractory material and forming a base layer of technical ceramic material of a predetermined thickness on the restoration. The base layer is formed by flame spraying, the model being of high thermal conductivity and cooled during spraying. Also claimed is a dental restoration made according to the above method.
USE - The material is used in dental restorations including veneers, crowns, inlays, onlays and bridge structures.
ADVANTAGE - The material has improved shape retention, high strength and a high thermal conductivity and can be fired while supported.

Original Publication Data by AuthorityArgentina**Publication No.** ...**Original Abstracts:**a dental restoration including the steps of forming a model of refractory material of a **tooth**, and forming, by **flame spraying** directly on **to said** refractory model, a base layer of predetermined thickness of said restoration, said refractory model being... ... a dental restoration including the steps of forming a model of refractory material of a **tooth**, and forming, by **flame spraying** directly on to **said** refractory model, a **base layer** of predetermined thickness of said restoration, said refractory model being cooled during the formation of... ... a dental restoration including the steps of forming a model of refractory material of a **tooth**, and forming, by **flame spraying** directly on to said **refractory** model, a base **layer of** predetermined thickness of said restoration, said refractory model being cooled during the formation of said... ... a dental restoration including the steps of forming a model of refractory material of a **tooth**, and forming, by **flame spraying** directly on to said refractory model, a base **layer** of predetermined thickness **of said** restoration, said refractory model being cooled during the formation of said base layer. The refractory... ...**Claims:**a dental restoration including the steps of forming a model of refractory material of a **tooth**, and forming, by **flame spraying directly** onto said refractory **model**, **a** base layer of technical ceramic based material of a predetermined thickness of said restoration, said... ... a dental restoration including the steps of forming a model of refractory material of a **tooth**, and forming, by **flame spraying** directly onto said refractory model, a base layer of technical **ceramic** based material of **a predetermined** thickness of said restoration, said refractory model being of high thermal conductivity and cooled during...

17/25,K/46 (Item 46 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0005446025 *Drawing available*
WPI Acc no: 1991-045901/199107
XRAM Acc no: C1991-019443
XRPX Acc No: N1991-035755
**Dental restoration has ceramic basal layer formed by flame spraying - alumina, zirconia or titania and coated with several layers of porcelain, body has improved shape retention and strength**
Patent Assignee: EVANS P A (EVAN-I); HARRISON P (HARR-I)
Inventor: EVANS P A; HARRISON P

| Patent Family ( 10 patents, 18 countries ) | | | | |
|---|---|---|---|---|
| **Patent Number** | **Kind** | **Date** | **Update** | **Type** |
| EP 412778 | A | 19910213 | 199107 | B |
| NO 199003411 | A | 19910211 | 199115 | E |
| CA 2022698 | A | 19910210 | 199117 | E |
| FI 199003935 | A | 19910210 | 199119 | E |
| JP 3218746 | A | 19910926 | 199145 | E |
| US 5104319 | A | 19920414 | 199218 | E |
| EP 412778 | B1 | 19940518 | 199420 | E |
| DE 69008970 | E | 19940623 | 199426 | E |
| CA 2022698 | C | 20000125 | 200025 | E |
| JP 3100390 | B2 | 20001016 | 200054 | E |

Local Applications (no., kind, date): EP 1990308681 A 19900807; JP 1990213584 A 19900809; US 1990561771 A 19900802; EP 1990308681 A 19900807; DE 69008970 A 19900807; EP 1990308681 A 19900807; CA 2022698 A 19900803; JP 1990213584 A 19900809
Priority Applications (no., kind, date): GB 198918178 A 19890809

**Alerting Abstract** EP A
Base layer of predetermined thickness is formed by flame spraying in mfr. of dental restoration. Flame spraying is pref. by direct or indirect technique using free flowing powder or liq. contg. technical ceramic which is one or more of alumina, zirconia and titania and opt. includes small amts. of silicate based material. Plurality of porcelain layers is pref. applied to base which is opt. first heat treated.
ADVANTAGE - Restoration has improved shape retention compared to sintering moulded shapes, and strength is greater than prior porcelain-based materials. @(6pp Dwg.No.1/1)@

Original Publication Data by AuthorityArgentina**Publication No.** ...**Claims:**the steps of forming a base layer (6) of predetermined thickness of said restoration by **flame spraying** a free flowing powder or **liquid** incorporating a **technical ceramic** based material onto a thin **layer** covering a refractory **tooth** positive target and post heat treating said base layer, characterised in that said post heat...

23/25,K/1 (Item 1 from file: 350)
DIALOG(R)File 350: Derwent WPIX

0015129068 *Drawing available*
WPI Acc no: 2005-478601/200548
XRAM Acc no: C2005-145647
XRPX Acc No: N2005-389686

**Coated implant for in vivo-anchoring to biological tissue or another implant, comprises implant having a pre-treated surface containing layer(s) of mainly non-hydrated chemically bonded ceramic material**

Patent Assignee: DOXA AB (DOXA-N)
Inventor: ENGQVIST H; HERMANSSON L; LOEOEF J; LOEOEFF J; LOOF J

Patent Family ( 6 patents, 107 countries )

| Patent Number | Kind | Date | Update | Type |
|---|---|---|---|---|
| WO 2005053764 | A1 | 20050616 | 200548 | B |
| SE 200303169 | A | 20050528 | 200548 | E |
| EP 1689459 | A1 | 20060816 | 200654 | E |
| JP 2007512082 | W | 20070517 | 200735 | E |
| US 20070173952 | A1 | 20070726 | 200750 | E |
| IN 200602347 | P4 | 20070706 | 200769 | E |

Local Applications (no., kind, date): WO 2004SE1745 A 20041125; SE 20033169 A 20031127; EP 2004819997 A 20041125; WO 2004SE1745 A 20041125; WO 2004SE1745 A 20041125; JP 2006541100 A 20041125; WO 2004SE1745 A 20041125; US 2007580613 A 20070308; WO 2004SE1745 A 20041125; IN 2006CN2347 A 20060627
Priority Applications (no., kind, date): SE 20033169 A 20031127

**Alerting Abstract** WO A1
NOVELTY - A coated implant (1) comprises an implant having a pre-treated surface containing layer(s) of mainly non-hydrated chemically bonded ceramic material. Each layer of the ceramic material independently comprises a first binder phase such as aluminates, silicates, phosphates, and/or sulfates, and that the ceramic material is chemically and/or mechanically bound to the implant.
DESCRIPTION - INDEPENDENT CLAIMS are also included for:

a. a method of manufacturing a coated implant, comprising pre-treating the surface of an implant, applying on the pre-treated surface one or more layers of mainly powdered nonhydrated ceramic material, which layers independently comprises a first binder phase such as aluminates, silicates, phosphates, and/or sulfates, and optionally pre-hydrating the ceramic material by contacting it with a curing liquid or body fluid to form a chemical and/or mechanical bond between the ceramic material and the implant;
b. a ceramic paste (5) comprising powdered calcium-based binder of aluminate and/or silicate and a hydration liquid; and

c. an implantation kit for in vivo-anchoring an implant to a biological tissue or another implant, comprising the coated implant and optionally a curing liquid capable of hydrating the binder phase of the coated implant and a paste, where the ceramic powder and hydration liquid of the paste are kept separately.

USE - The implant is for in vivo-anchoring to a biological tissue or another implant. It is used as medical, orthopedic or dental implant e.g. artificial orthopedic device, spinal implant, joint implant, attachment element, bone nail, bone screw, or bone reinforcement plate. (All claimed). It is useful for orthopedic and dental applications.
ADVANTAGE - The inventive implant provides a sufficiently high strength and load-bearing capacity, and promotes re-growth of the bone.
DESCRIPTION OF DRAWINGS - The drawing shows a cross-sectional view of the coated implant, including the ceramic paste immediately after it has been arranged against the biological wall.
1 Implant
2 Coating layer
3 Outer layer
4 Hard tissue
5 Paste
6 Vacuoles

**Technology Focus** ...of the coating is applied on the implant surface by any of the following techniques: **thermal spraying**, **flame spraying**, Electro Deposition Spraying (EDS), **plasma spraying**, dipping and spin coating. The innermost layer of the coating is applied on the implant... **Extension Abstract Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date ...**A61C-0008/00** ...**A61C-0008/00**

---


23/25,K/2 (Item 2 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0008431486
WPI Acc no: 1997-549765/199750
XRAM Acc no: C1997-175404
XRPX Acc No: N1997-458338
**Coating a substrate with carbonated hydroxy-apatite used as orthopaedic or dental prostheses or implants - comprises immersing substrate in aqueous solution of calcium ions, phosphate ions and bicarbonate ions, heating and maintaining substrate in contact with heated super saturated solution**
Patent Assignee: 3C RES SRL (THRE-N); BIOCOATINGS SRL (BIOC-N);

BIOTECNIC SA (BIOT-N); CASTI A (CAST-I); CHI-BO SRL (CHIB-N); CREMASCOLI SRL G (CREM-N); FLAMETAL SPA (FLAM-N)
Inventor: RANZ X; REY C

Patent Family ( 6 patents, 20 countries )

| Patent Number | Kind | Date | Update | Type |
|---|---|---|---|---|
| WO 1997041273 | A1 | 19971106 | 199750 | B |
| EP 904421 | A1 | 19990331 | 199917 | E |
| EP 904421 | B1 | 20000719 | 200037 | E |
| DE 69702610 | E | 20000824 | 200048 | E |
| IT 1288038 | B | 19980910 | 200126 | E |
| US 6280789 | B1 | 20010828 | 200151 | E |

Local Applications (no., kind, date): WO 1997IT89 A 19970421; EP 1997919640 A 19970421; WO 1997IT89 A 19970421; EP 1997919640 A 19970421; WO 1997IT89 A 19970421; DE 69702610 A 19970421; EP 1997919640 A 19970421; WO 1997IT89 A 19970421; IT 1996PR21 A 19960430; WO 1997IT89 A 19970421; US 1999180059 A 19990628
Priority Applications (no., kind, date): IT 1996PR21 A 19960430

**Alerting Abstract** WO A1
A coating essentially of carbonated hydroxyapatite (I) is applied to a substrate by: (a) immersing the substrate in an aqueous solution containing, mmole/litre, 1-3.8 calcium ions, 1-3.8 phosphate ions, and 0.08-3.8 bicarbonate ions, with molar ratio calcium:phosphate 0.8-2.0, pH 6.8-8.0, temperature below 50 (deg)C; (b) heating at 50-80 (deg)C until pH is greater than 8; (c) maintaining the substrate in contact with the heated supersaturated solution, causing coating of the substrate with (I); (d) removing substrate from the solution when required coating thickness has been obtained, and (e) drying the coating. Substrates coated with (I), optionally over other coatings, are claimed.
USE - Coatings of (I) are non-toxic, biocompatible, osteo-conductive, bioresorbable or biodegradaable, and bioactive; they are suitable for orthopaedic or dental prostheses and implants.

**Documentation Abstract** ...a coating previously deposited on a support, e.g. a coating of hydroxyapatite deposited by **plasma spraying** on a metal support. A metal support may have a first coating of metal, a... ... and (I) as the third coating, with first and second coatings deposited e.g. by **plasma spraying**.**Documentation Abstract Image Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date **A61C**;

26/25,K/23 (Item 23 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0010166422
WPI Acc no: 2000-475596/200041
XRAM Acc no: C2000-142483
XRPX Acc No: N2000-354850
**Method of adorning a tooth comprises etching tooth, applying and curing unfilled resin, applying filled resin and affixing jewel to tooth without necessity of custom fitting or conforming the jewel to tooth**
Patent Assignee: KUNSTADTER M A (KUNS-I); SIGLER M K (SIGL-I)
Inventor: KUNSTADTER M A; SIGLER M K

| Patent Family ( 2 patents, 82 countries ) | | | | |
|---|---|---|---|---|
| **Patent Number** | **Kind** | **Date** | **Update** | **Type** |
| WO 2000038587 | A1 | 20000706 | 200041 | B |
| AU 199920208 | A | 20000731 | 200050 | E |

Local Applications (no., kind, date): WO 1998US27785 A 19981229; WO 1998US27785 A 19981229; AU 199920208 A 19981229
Priority Applications (no., kind, date): WO 1998US27785 A 19981229

**Alerting Abstract** WO A1
NOVELTY - Method of adorning a tooth without necessity of custom fitting or conforming the jewel to tooth involves etching the tooth and applying unfilled resin to the etched surface. The unfilled resin is cured, and then a filled resin is applied on the cured unfilled resin. A jewel is placed in the unfilled cured resin and the filled resin is cured to firmly bond the jewel to the tooth.
DESCRIPTION - An INDEPENDENT CLAIM is also included for tooth decorating system without necessity of custom fitting or conforming the jewel to the tooth. At least one jewel to fit on the surface of tooth and a bonding material for bonding the jewel to the tooth are provided.
USE - For decorating tooth such as affixing jewelry.
ADVANTAGE - The method avoids mutilation of the tooth, use of a crown, malleable foil, or making of an impression of tooth and forming the jewelry to conform with the shape of the target tooth. The jewels can be used alone or in conjunction with one another such as Christmas Holly, comet or other like to create a design. The jewel applied will remain affixed to the tooth for at least several months, even longer, without maintenance. However, if the person desires to remove the applique, a dentist can easily do so with conventional dental tools. The method also allows dentists to decorates a patient's teeth as a part of patient's regular dental check-ups thereby, multiple visits are not required.

**Technology Focus** ...diameter and is comprised of quartz crystals. The bonding material comprises an unfilled acrylic resin **liquid** and **filled quartz** resin. **Extension Abstract Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date ...**A61C-0019/00**... ...**A61C-0007/16** ...**A61C-0019/00**... ...**A61C-0007/00**

26/25,K/38 (Item 38 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0002491567
WPI Acc no: 1982-72705E/198235
**Bonding of materials to calcified tissues - by forming crystal growth adhered to tissue, then interlocking with crystal growth**
Patent Assignee: DENNIS SMITH CONSUL (DENN-N); ROMADA HOLDINGS LTD (ROMA-N); SMITH D CONSULTING (SMIT-N); TORONTO T ROMADA HOLDING (TORO-N)
Inventor: MAIJER R; SMITH D C

Patent Family ( 7 patents, 15 countries )

| Patent Number | Kind | Date | Update | Type |
|---|---|---|---|---|
| EP 58527 | A | 19820825 | 198235 | B |
| JP 57158713 | A | 19820930 | 198245 | E |
| BR 198200814 | A | 19821228 | 198307 | E |
| US 4382792 | A | 19830510 | 198321 | NCE |
| US 4548583 | A | 19851022 | 198545 | NCE |
| US 4600383 | A | 19860715 | 198631 | NCE |
| CA 1252318 | A | 19890411 | 198919 | E |

Local Applications (no., kind, date): EP 1982300690 A 19820211; US 1981235166 A 19810217; US 1982424051 A 19820927; US 1983545881 A 19831027; US 1985704340 A 19850222; US 1981235166 A 19810217; US 1982424051 A 19820927; US 1983545881 A 19831027 ; US 1985704340 A 19850222; US 1981235166 A 19810217; US 1982424051 A 19820927; US 1983545881 A 19831027; US 1985704340 A 19850222; CA 370777 A 19810213
Priority Applications (no., kind, date): CA 370777 A 19810213; US 1981235166 A 19810217; US 1982424051 A 19820927; US 1983545881 A 19831027; US 1985704340 A 19850222

**Alerting Abstract** EP A
Materials (I) are bonded to calcified tissues by forming a crystal growth adhered to the tissue surface, then interlocking the bonding with the crystal growth. The crystal growth is pref. gypsum (II) crystals of needle-shape and spherulitic habit, The growth may be

formed by treatment of the tooth with a soln. (of non-flowing viscosity) contg. an ionic species capable of interacting with calcified tissue to form an insol. Ca salt and which is mildly acidic (to release Ca 2+ from tooth surface). A prefd. soln. 10-60% polyacrylic acid (mol.wt. 1000-100,000) contg. at least 1% is aq.. Opt. the soln. may also contain The bond allows functional stress transfer across the interface between reconstructive materials and calcified tissues, and minimises leakage in tooth restoration, etc. In addn., outer enamel is not lost in the process, and bonded orthodontic attachments may be removed without damage.

**Class Codes** International Patent Classification IPC Class Level Scope Position Status Version Date **A61C**-003/00 Main **A61C**-005/04... Original Publication Data by AuthorityArgentina**Publication No.** ...**Original Abstracts:**which are formed by contacting the tissue surface with a mildly acidic solution containing sulphate **ions**. An uncured **liquid** resin is **applied** to the **crystal** growth and is cured to achieve adhesion by micromechanical **interlock** with the **crystal** growth and **by** superficial penetration of the tissue surface... ... are formed by contacting the tissue surface with a mildly acidic solution containing sulphate ions. **An** uncured **liquid** resin **is applied** to the **crystal** growth and is cured to achieve adhesion by micromechanical interlock with the **crystal** growth **and** by superficial **penetration** of the **tissue** surface.

FULLTEXT

**? SHOW FILES**

```
File   9:Business & Industry(R) Jul/1994-2010/Jun 30
         (c) 2010 Gale/Cengage
File  16:Gale Group PROMT(R) 1990-2010/Jul 01
         (c) 2010 Gale/Cengage
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2010/Jun 30
         (c) 2010 Gale/Cengage
File 621:Gale Group New Prod.Annou.(R) 1985-2010/May 12
         (c) 2010 Gale/Cengage
File 441:ESPICOM Pharm&Med DEVICE NEWS 2010/Jun W4
         (c) 2010 ESPICOM Bus.Intell.
File 149:TGG Health&Wellness DB(SM) 1976-2010/May W2
         (c) 2010 Gale/Cengage
File  15:ABI/Inform(R) 1971-2010/Jun 30
         (c) 2010 ProQuest Info&Learning
File  47:Gale Group Magazine DB(TM) 1959-2010/Jun 08
         (c) 2010 Gale/Cengage
File 624:McGraw-Hill Publications 1985-2010/Jun 30
         (c) 2010 McGraw-Hill Co. Inc
File 635:Business Dateline(R) 1985-2010/Jul 01
         (c) 2010 ProQuest Info&Learning
File 636:Gale Group Newsletter DB(TM) 1987-2010/Jun 30
         (c) 2010 Gale/Cengage
File 649:Gale Group Newswire ASAP(TM) 2010/May 14
         (c) 2010 Gale/Cengage
File 135:NewsRx Weekly Reports 1995-2010/Jun W3
         (c) 2010 NewsRx
File 619:Asia Intelligence Wire 1995-2010/Jun 30
         (c) 2010 Fin. Times Ltd
File 457:The Lancet 1992-2010/Jun W3
         (c) 2010 Elsevier Limited.All rights res
File 444:New England Journal of Med. 1985-2010/Jun W4
         (c) 2010 Mass. Med. Soc.
File 370:Science 1996-1999/Jul W3
         (c) 1999 AAAS
```

**? DS**

```
Set     Items   Description
S1    1838272   GLASS OR CRYSTAL? ? OR CERAMIC? ? OR HYDROXYAPATITE? ?
OR HYDROXYLAPATITE? OR BIOCERAMIC? ?
S2     902782   QUARTZ? OR DIAMOND? OR SAPPHIRE? ? OR TOPAZ? OR
AMETHYST? OR ZIRCON? OR AGATE? ? OR GRANITE? ? OR SPINEL? ? OR FIANITE?
? OR TANZANITE? ? OR TOURMALINE? ?
S3     139127   S1(5N)(LIQUID? OR FLUID? OR HEATED OR PREHEAT? OR
MELTED OR PREMELT? OR LIQUEF? OR PRELIQUEF? OR PRELIQUID? OR PREFLUID?)
S4       3864   S2(5N)(LIQUID? OR FLUID? OR HEATED OR PREHEAT? OR
MELTED OR PREMELT? OR LIQUEF? OR PRELIQUEF? OR PRELIQUID? OR PREFLUID?)
S5     142472   S3 OR S4
S6      48847   S5/2005:2010
S7      93625   S5 NOT S6
        LIMTALL S7
```

```
S8       2497   S5(7N)(POUR? OR BRUSH? OR PAINT? OR LAMINAT? OR COAT?
OR FILL OR FILLS OR FILLED OR FILLING OR SPRAY? OR APPLY? OR APPLIE? ?)
S9        725   BONE OR BONES
S10       455   TEETH OR TOOTH
S11       116   HARD()TISSUE? ? OR CARTILAG?
S12       983   SKELETON? OR VERTEBRA? OR FEMUR? ? OR COCCY??? OR ULNA?
? OR HUMER?? OR TIBIA? ? OR FIBULA? ? OR SACRUM OR SACRA OR SPINE OR
SPINES OR BACKBONE? ?
S13        13   S8(S)(S9:S12)
S14        11   RD  (unique items)
S15       110   S8 AND (S9:S12)
S16        97   S15 NOT S13
S17        85   RD  (unique items)
S18        11   S4(S)(S9:S12)
S19         8   S18 NOT (S15 OR S13)
S20         8   RD  (unique items)
S21       228   (S9:S12)(S)S3
S22       211   S21 NOT (S18 OR S15 OR S13)
S23       166   RD  (unique items)
```
? **logoff**

14/3,K/2 (Item 1 from file: 16)
DIALOG(R)File 16: Gale Group PROMT(R)


05520962 **Supplier Number:** 48368345

**Zeolithe f r Mikroelektronik und Zahnersatz**
Blick durch die Wirtschaft , p 15
March 20 , 1998
**Language:** English **Record Type:** Abstract
**Document Type:** Newsletter ; Trade

**Abstract:**
...material that can replace amalgam in tooth fillings. Nordsee-Zeitung
reports that Ormocer, a tooth **filling** material developed by
Degussa, contains 70% **ceramic** powder and 30% **liquid ceramic** binding material. A big **filling** costs DM 80-120. According to Pressetexte, the biocompatible **tooth** filling material
by Degussa releases no monomers and has an abrasion similar to amalgam.
The...

14/3,K/11 (Item 2 from file: 636)
DIALOG(R)File 636: Gale Group Newsletter DB(TM)

02028735 **Supplier Number:** 43677892 **(USE FORMAT 7 FOR FULLTEXT)**

**Sekisui Chemical to market bioceramic**
New Materials Japan , p N/A
March , 1993
**Language:** English **Record Type:** Fulltext
**Document Type:** Newsletter ; Trade
**Word Count:** 93

-
...below 0.1 Um. It is said to be ideal for use in water-based
**paints, fluid** cosmetics and toothpaste. **Hydroxyapatite** is also finding increasing use in artificial **bone** and **teeth,**
says the company.
For further information, contact: Sekisui Chemical Co Ltd, 2-4-4,
Nishi...

17/3,K/2 (Item 2 from file: 9)
DIALOG(R)File 9: Business & Industry(R)

02890039 Supplier Number: 95259857 **(USE FORMAT 7 OR 9 FOR FULLTEXT)**
**^BASF takes big steps in small technology. (Nanomaterials).**
**( introduces nanomaterials technologies )**
Chemical Week , v 164 , n 47 , p 45
December 04, 2002
**Document Type:** Journal **ISSN:** 0009-272X ( United States )
**Language:** English **Record Type:** Fulltext
**Word Count:** 801 **(USE FORMAT 7 OR 9 FOR FULLTEXT)**
**TEXT:**
...well as for hydrogen storage "nanocubes" for fuel cells (picture,
right), scratch-resistant polymers, synthetic **tooth** enamel, and
superinsulators for electronic applications. BASF is focusing R&D on
new nanomaterials, as...

...says.

Dental care is one of the target markets. The company is developing a
synthetic **tooth** enamel, hydroxyapatite, that is generated in the
form of nano-sized crystals (CW, Nov. 6, p. 32). The needle-shaped

nanocrystals interconnect to form a protective layer that adsorbs onto
**tooth** enamel. The crystals protect **teeth** from decay and make
them whiter, and are an alternative to standard bleaching methods that
remove **tooth** enamel, BASF says.

The company also wants to introduce novel emulsion polymers with
nanodimensions. BASF...

...composed of a polystyrene core surrounded by a shell of polybutyl
acrylate. The film is **sprayed** onto a surface in **liquid** form
and dries into ordered **crystals.** Applications could include
packaging films, decorative papers, and cosmetic applications, including
nail polish and hairspray...

17/3,K/24 (Item 3 from file: 148)
DIALOG(R)File 148: Gale Group Trade &
Industry DB


15279720
**Supplier Number:** 95259857 (USE
FORMAT 7 OR 9 FOR FULL TEXT )
**BASF takes big steps in small technology. (Nanomaterials).(introduces nanomaterials technologies)**

Scott, Alex

Chemical Week , 164 , 47 , 45(1)

Dec 4 , 2002
ISSN: 0009-272X
**Language:**
English
**Record Type:** Fulltext
**Word Count:**
879 **Line Count:** 00075
...well as for hydrogen storage "nanocubes" for fuel cells (picture,

right), scratch-resistant polymers, synthetic **tooth** enamel, and
superinsulators for electronic applications. BASF is focusing R&D on
new nanomaterials, as...says.

Dental care is one of the target markets. The company is developing
a synthetic **tooth** enamel, hydroxyapatite, that is generated in the
form of nano-sized crystals (CW, Nov. 6, p. 32). The needle-shaped
nanocrystals interconnect to form a protective layer that adsorbs onto
**tooth** enamel. The crystals protect **teeth** from decay and make
them whiter, and are an alternative to standard bleaching methods that
remove **tooth** enamel, BASF says.

The company also wants to introduce novel emulsion polymers with
nanodimensions. BASF...composed of a polystyrene core surrounded by a shell
of polybutyl acrylate. The film is **sprayed** onto a surface in
**liquid** form and dries into ordered **crystals**. Applications
could include packaging films, decorative papers, and cosmetic
applications, including nail polish and hairspray...

17/3,K/46 (Item 25 from file: 148)
DIALOG(R)File 148: Gale Group Trade & Industry DB


04527971 **Supplier Number:** 08556015 (USE FORMAT 7 OR 9 FOR FULL TEXT )
**Materials handbook for refractories, traditional & advanced ceramics. (part 2; L through Z)**

Ceramic Industry , v134 , n1 , p75(39)
Jan , 1990
ISSN: 0009-0220
**Language:** ENGLISH
**Record Type:** FULLTEXT
**Word Count:** 62009 **Line Count:** 05118
...colors ranging from ivory through yellows to dark tan, according to the
amount introduced. Artificial **teeth** are among the ceramics so

tinted. One product, mined and milled in Virginia, is reported...film of
water on the dielectric and effectively stops surface leakage. For
nonporous ceramic, the **coating** is a baked-on **fluid**; for porous **ceramic**, a resin; and for ceramic insulation for high power
lines, a grease. Silicones are used...

...bottles and are applied to the inside of glass containers to ensure
complete drainage of **liquid.**
Where high temperatures are encountered, **glass** fiber **laminates** use silicones as the bonding agents. Totally enclosed
motors, which are found where there is...

17/3,K/57 (Item 3 from file: 15)
DIALOG(R)File 15: ABI/Inform(R)


02499877 261542451
**BASF takes big steps in small technology**

Scott, Alex
Chemical Week v164n47 pp: 45
Dec 4, 2002
**ISSN:** 0009-272X **Journal Code:** CEM
**Word Count:** 830

**Abstract:**
...color, as well as for hydrogen storage nanocubes for fuel cells,
scratch-resistant polymers, synthetic **tooth** enamel, and superinsulators for electronic applications. The company is developing a
synthetic **tooth** enamel, hydroxyapatite, that is generated in the
form of nano-sized crystals. The company also...

**Text:**
...well as for hydrogen storage "nanocubes" for fuel cells (picture,
right), scratch-resistant polymers, synthetic **tooth** enamel, and
superinsulators for electronic applications. BASF is focusing R&D on

new nanomaterials, as...

...says.

Dental care is one of the target markets. The company is developing a
synthetic **tooth** enamel, hydroxyapatite, that is generated in the
form of nano-sized crystals (CW, Nov. 6, p. 32). The needle-shaped
nanocrystals interconnect to form a protective layer that adsorbs onto
**tooth** enamel. The crystals protect **teeth** from decay and make
them whiter, and are an alternative to standard bleaching methods that
remove **tooth** enamel, BASF says.

The company also wants to introduce novel emulsion polymers with
nanodimensions. BASF...

...composed of a polystyrene core surrounded by a shell of polybutyl
acrylate. The film is **sprayed** onto a surface in **liquid** form
and dries into ordered **crystals**. Applications could include
packaging films, decorative papers, and cosmetic applications, including
nail polish and hairspray...

17/3,K/72 (Item 2 from file: 624)
DIALOG(R)File 624: McGraw-Hill Publications


01072350
ADVANCES IN ARTIFICIAL LIMBS IS GOAL OF BERKELEY RESEARCH

Federal Technology Report, Number 3672, Pg 9
February 10, 2000
JOURNAL CODE: TTR
SECTION HEADING: FEDERAL LABS ISSN: 1042-9158/9
WORD COUNT: 472

TEXT:

...are devising a new glass that they say improves the way artificial limbs
bond to **bones**. The material could significantly extend the life of
prosthetic devices.

The so-called ``bioactive'' glass...
... both of these approaches have good mechanical properties, neither is
able to bond properly with **bone**, the lab said. As a result, the
metal from the implant can rub against **bone** and wear out easily.

But Antoni Tomasia, a materials scientist at LBNL, said
researchers are...

...of the implant and promotes the formation of hydroxyapatite.''

Hydroxyapatite is the inorganic part of **bone**. Tomasia and LBNL physicist Eduardo Saiz have created a bioactive silicon-based
substance and an...

... Tomasia. Previous coatings were based on ceramics, but they also proved
to have shortcomings.

When **ceramic**-based **coatings** were **heated**,
they tended to crack at the adhesion points. In addition, chemical
reactions between the coatings...

BIBLIOGRAPHIC

**? show files**

```
File 155:MEDLINE(R) 1950-2010/Jun 29
         (c) format only 2010 Dialog
File   5:Biosis Previews(R) 1926-2010/Jun W4
         (c) 2010 The Thomson Corporation
File 972:EMBASE 1947-2010/Jun 30
         (c) 2010 Elsevier B.V.
File  24:CSA Life Sciences Abstracts 1966-2010/Jun
         (c) 2010 CSA.
File  35:Dissertation Abs Online 1861-2010/May
         (c) 2010 ProQuest Info&Learning
File  65:Inside Conferences 1993-2010/Jun 30
         (c) 2010 BLDSC all rts. reserv.
File  45:EMCare 2010/Jun W4
         (c) 2010 Elsevier B.V.
File  23:CSA Technology Research Database 1963-2010/May
         (c) 2010 CSA.
File   2:INSPEC 1898-2010/Jun W3
         (c) 2010 The IET
File   6:NTIS 1964-2010/Jun W4
         (c) 2010 NTIS, Intl Cpyrght All Rights Res
File   8:Ei Compendex(R) 1884-2010/Jun W3
         (c) 2010 Elsevier Eng.  Info. Inc.
File  95:TEME-Technology & Management 1989-2010/May W4
         (c) 2010 FIZ TECHNIK
File  99:Wilson Appl. Sci & Tech Abs 1983-2010/Apr
         (c) 2010 The HW Wilson Co.
File  10:AGRICOLA 70-2010/Jun
         (c) format only 2010 Dialog
File  50:CAB Abstracts 1972-2010/Jul W1
         (c) 2010 CAB International
File 203:AGRIS 1974-2010/May
         Dist by NAL, Intl Copr. All rights reserved
File  98:General Sci Abs 1984-2010/May
         (c) 2010 The HW Wilson Co.
File 103:Energy SciTec 1974-2010/May B2
         (c) 2010 Contains copyrighted material
File 144:Pascal 1973-2010/Jun W4
         (c) 2010 INIST/CNRS
File 399:CA SEARCH(R) 1967-2010/UD=15301
         (c) 2010 American Chemical Society
```

**? ds**

```
Set     Items   Description
S1    2916067   BONE OR BONES
S2     698446   TEETH OR TOOTH
S3     347911   HARD()TISSUE? ? OR CARTILAG?
S4    8807834   GLASS OR CRYSTAL? ? OR CERAMIC? ? OR HYDROXYAPATITE? ?
OR HYDROXYLAPATITE? OR BIOCERAMIC? ?
```

```
S5    1282792   S4(5N)(LIQUID? OR FLUID? OR HEATED OR PREHEAT? OR
MELTED OR PREMELT? OR LIQUEF? OR PRELIQUEF? OR PRELIQUID? OR PREFLUID?)
S6        105   S5(7N)S2
S7         45   S6/2005:2010
S8         60   S6 NOT S7
S9         54   RD  (unique items)
S10       976   S5(7N)S1
S11       117   S5(7N)S3
S12   2151998   S1/DE
S13       116   S11 NOT S6
S14        24   S13/2005:2010
S15        92   S13 NOT S14
S16        53   RD  (unique items)
S17  19109020   SKELETON? OR VERTEBRA? OR FEMUR? ? OR COCCY??? OR ULNA?
? OR HUMER?? OR TIBIA? ? OR FIBULA? ? OR SACRUM OR SACRA OR SPINE OR
SPINES OR BACKBONE? ?
S18       571   S5(7N)S17
S19        32   S18 AND S12
S20        31   S19 NOT (S11 OR S6)
S21         6   S20/2005:2010
S22        25   S20 NOT S21
S23        24   RD  (unique items)
S24       840   S10 AND S12
S25        81   S10(7N)(POUR? OR BRUSH? OR PAINT? OR LAMINAT? OR COAT?
OR FILL OR FILLS OR FILLED OR FILLING)
S26        76   S25 NOT (S19 OR S11 OR S6)
S27        48   S26/2005:2010
S28        28   S26 NOT S27
S29        22   RD  (unique items)
```

? **log off**



0004611118 **EMCARE No:** 40353597

**Histopathological and cell enzyme studies of calcium phosphate cements**

Sugawara A.; Fujikawa K.; Takagi S.; Chow L.C.; Nishiyama M.; Murai S.
Department of Dental Materials, Nihon University, School of Dentistry, 1-8-13, Kanda-surugadai, Chiyoda-ku, Tokyo, Japan
**AUTHOR EMAIL:** aki@dr-sugawara.com
**CORRESP. AUTHOR/AFFIL:** Sugawara A.: Department of Dental Materials, Nihon University, School of Dentistry, 1-8-13, Kanda-surugadai, Chiyoda-ku, Tokyo, Japan
**CORRESP. AUTHOR EMAIL:** aki@dr-sugawara.com

Dental Materials Journal ( Dent. Mater. J. ) ( Japan ) December 1, 2004 , 23/4 (613-620)
**PUBLISHER:** Japanese Society for Dental Materials and Devices
**ISSN:** 0287-4547
**DOCUMENT TYPE:** Journal ; Article **RECORD TYPE:** Abstract
**LANGUAGE:** English **SUMMARY LANGUAGE:** English

**NUMBER OF REFERENCES:** 28

New types of self-setting calcium phosphate cement (N-CPC), which do not contain tetracalcium phosphate, were recently developed. N-CPCs harden in 10 minutes with phosphate solution as the cement liquid, and form hydroxyapatite as the set product. The objectives of the present study were to evaluate the biocompatibility (Study I) and cell enzyme activity of N-CPCs and a conventional CPC (Study II). Four experimental cements were tested: (1) dicalcium phosphate anhydrous (DCPA) and calcium oxide; (2) DCPA and calcium hydroxide; (3) tricalcium phosphate and calcium carbonate; and (4) DCPA and tetracalcium phosphate. Phosphate solution was used as the cement liquid for cements (1)-(3), and water for cement (4). Sintered hydroxyapatite particles (5) were used as a control. The test materials were implanted subcutaneously in rats. Four weeks after operation, the animals were sacrificed and histopathological observations were performed. Cements (2) and (3) showed no inflammatory reaction, and were surrounded only by very thin fibrous connective tissues. The histopathological reactions of N-CPCs were nearly identical and were similar to (4) and (5). In addition, effects of alkaline phosphatase (ALP-ase) activity - invoked by the presence of cements (3) and (4) - on osteoblast-like cells derived from dog alveolar bone were also examined because ALP-ase activity is closely related to new bone formation. These results indicated that (3) and (4) were highly compatible with subcutaneous tissues and suggested that these cements may enhance new bone formation.

**DESCRIPTORS:**
* alkaline phosphatase; *calcium phosphate; *cell enzyme; *cement
alveolar bone; animal experiment; biocompatibility; calcium carbonate; calcium hydroxide; calcium oxide; calcium phosphate dibasic; connective tissue; controlled study; dog; enzyme activity; histopathology; **hydroxyapatite**; implant; inflammation; **liquid**; nonhuman; ossification; osteoblast; phosphate; rat; subcutaneous tissue; **tooth** cement; water



0004455598 **EMCARE No:** 38738824

**Fit Checker(R) for all ceramic restorations**

Pohjola R.M.
Medical College of Georgia, School of Dentistry, Department of Oral Rehabilitation, Augusta, GA, United States; 1120 15th St, Augusta, GA 30912-1260, United States
**AUTHOR EMAIL:** rpohjola@mail.mcg.edu
**CORRESP. AUTHOR/AFFIL:** Pohjola R.M.: 1120 15th St, Augusta, GA 30912-1260, United States
**CORRESP. AUTHOR EMAIL:** rpohjola@mail.mcg.edu

Operative Dentistry ( Oper. Dent. ) ( United States ) May 1, 2004 , 29/3 (346)

**PUBLISHER:** Indiana University School of Dentistry
**ISSN:** 0361-7734
**DOCUMENT TYPE:** Journal ; Article **RECORD TYPE:** Citation
**LANGUAGE:** English
**DEVICE BRAND NAME/MANUFACTURER NAME:** FIT CHECKER/GC/Japan
DEVICE MANUFACTURER NAMES: GC/Japan
**DESCRIPTORS:**
* ceramics
catalyst; **ceramic** prosthesis; color; food dye; **liquid**; staining; **tooth** crown; **tooth** prosthesis



0004012847 **EMCARE No:** 33660601

**The effect of luting media on the fracture resistance of a flame sprayed all-ceramic crown**

Casson A.M.; Glyn Jones J.C.; Youngson C.C.; Wood D.J.
Division of Restorative Dentistry, Leeds Dental Institute, Clarendon Way, Leeds, LS2 9LU, United Kingdom
**AUTHOR EMAIL:** d.j.wood@leeds.ac.uk
**CORRESP. AUTHOR/AFFIL:** Wood D.J.: Division of Restorative Dentistry, Leeds Dental Institute, Clarendon Way, Leeds, LS2 9LU, United Kingdom
**CORRESP. AUTHOR EMAIL:** d.j.wood@leeds.ac.uk

Journal of Dentistry ( J. Dent. ) ( United Kingdom ) November 1, 2001 , 29/8 (539-544)
**PUBLISHER:** Elsevier Ltd
**CODEN:** JDENA **ISSN:** 0300-5712
**PUBLISHER ITEM IDENTIFIER:** S0300571201000409
**DOI:** 10.1016/S0300-5712(01)00040-9
**Item Identifier (DOI):** 10.1016/S0300-5712(01)00040-9
**DOCUMENT TYPE:** Journal ; Article **RECORD TYPE:** Abstract
**LANGUAGE:** English **SUMMARY LANGUAGE:** English
**NUMBER OF REFERENCES:** 32

Objectives: This in vitro study investigated the effect of selected luting media on the fracture resistance of a flame-sprayed all-ceramic crown. Methods: Three groups of 10 human upper premolar teeth were prepared for crowning using a standardised technique. Flame sprayed crowns were fabricated and cemented onto the preparations using zinc phosphate (ZPC), glass polyalkenoate (GPC) or composite luting cement (CLC). During crown seating, a pressure perfusion system simulated pulpal fluid outflow equivalent to 300 mm of H SUB 2 O. Compressive fracture resistance was determined for each group using a Universal Testing Machine with a crosshead speed of 1 mm min SUP -1 . A

group of unrestored teeth acted as a control. Results: The fracture resistance of the groups ranked as follows: ZPC > CLC (much greater than) GPC = unrestored teeth. The difference between the fracture resistance of ZPC and CLC groups and the control group was statistically significant. The mode of fracture between the luted crowns and natural crowns was markedly different. Conclusions: When tested in compression, a new, flame-sprayed all-ceramic crown, when luted in place using ZPC, GPC or CLC, could produce strengths comparable to or greater than natural unrestored teeth. The luting agent used significantly affected the recorded fracture loads. 

**DESCRIPTORS:**
* ceramics; *fracture
cement; compression; control group; **glass**; human; in vitro study; **liquid**; machine; perfusion; premolar **tooth**; seat; **tooth**; velocity; zinc phosphate

9/5/35 (Item 4 from file: 2)
DIALOG(R)File 2: INSPEC


06266675
**Title: Preparation of press-formable CaO-MgO-$SiO_2$-TiO-$Ag_2O$ glass for dental crown**
**Author(s):** Nonami, T.[1]; Tsutsumi, S.
**Affiliation(s):**
[1] Mater. Res. Center, TDK Corp., Chiba , Japan
**Journal:** Journal of the Ceramic Society of Japan , vol.104 , no.3 , pp.201-7
**Publisher:** Ceramic Soc. Japan
**Country of Publication:** Japan
**Publication Date:** March 1996
**ISSN:** 0914-5400
**ISSN Type:** print
**SICI:** 0914-5400(199603)104:3L.201:PPFS;1-G
**CODEN:** NSKRE2
**Language:** English
**Document Type:** Journal Paper (JP)
**Treatment:** Experimental (X)
**Abstract:** Glass-ceramics were searched for in the systems based on CaO-MgO-$SiO_2$-$TiO_2$-$Ag_2O$. The glasses melted at 1500(deg)C could be cast. The absorptions were measured. Silver colloids formed in the glasses of composition CaO.MgO.2SiO.0.375$TiO_2$.0.007$Ag_2O$, and CaO.MgO.2$SiO_2$.0.49$TiO_2$.0.007$Ag_2O$. The crystallization of diopside of these glasses are controlled by volume nucleation and growth processes. It is shown that the activation energy for crystallization of diopside decreases of these glasses. A fluidity of diopside glass was observed at 800-900(deg)C by the viscous flow mechanism. It can be formed precisely and crystallized under pressure of 0.15 MPa at 850(deg)C for 40 min, and the glass-ceramics contained crystalline

diopside. The bending strength was about 350 MPa. This glass-ceramics crystal phase look similar to natural teeth in color and translucency without any deformation. Such a press-forming method is superior to casting method because it is free from pores, and it can be formed lower temperature than 900(deg)C regardless of the glass has high melting point. ( *18 refs.*)
**Subfile(s):** A (Physics)
**Descriptors:** bending strength; calcium compounds; casting; crystallisation; glass; magnesium compounds; nucleation; plastic deformation; prosthetics; silicon compounds; silver compounds; titanium compounds
**Identifiers:** press-formable $CaO-MgO-SiO_2-TiO-Ag_2O$ glass; dental crown applications; preparation; crystallization; growth processes; volume nucleation; diopside **glass fluidity**; **glass-ceramics**; deformation; natural **teeth** color; melting point; 800 to 900 C; 40 min; 1500 C; $CaO-MgO-SiO_2-TiO-Ag_2O$
**Classification Codes:** A8120P (Preparation of glasses); A8770J (Prosthetics and other practical applications); A8140L (Deformation, plasticity and creep); A6220F (Deformation and plasticity); A8130F (Solidification); A6470D (Solid-liquid transitions); A6140D (Structure of glasses)
**International Patent Classification:**
A61F-0002/02 (Prostheses implantable into the body)
B01D-0009/00 ( Crystallisation)
B22D (Casting of metals; Casting of other substances by the same processes or devices)
**Chemical Indexing:**
CaOMgOSiO2TiOAg2O/ss - SiO2/ss - Ag2/ss - O2/ss - Ag/ss - Ca/ss - Mg/ ss - Si/ss - Ti/ss - O/ss
**Numerical Indexing:** time: 2.4E+03 s; temperature: 1.77E+03 K; temperature: 1.07E+03 to 1.17E+03 K
**INSPEC Update Issue:** 1996-019


9/5/44 (Item 1 from file: 95)
DIALOG(R)File 95: TEME-Technology & Management


01984067 20050601905
**Bioactive cyanoacrylate-based filling material for bone defects in dental applications**

Park, Kyeong-Jun; Park, Ji-Ho; Lee, Sang-Bae; Lee, Doug-Youn; Kim, Kyoung-Nam; Kim, Kwang-Mahn
Yonsei Univ., Seoul, KR
Bioceramics 17, 17th Internat. Symp. on Ceramics in Medicine, the Annual Meeting of the Internat. Soc. for Ceramics in Medicine, New Orleans, US, Dec 8-12, 2004 Key Engineering Materials, v284-286, n1, pp933-936 , 2004
**Document type:** Conference paper **Language:** English
**Record type:** Abstract
**ISBN:** 0-87849-961-X
**ISSN:** 1013-9826

**Abstract:**
The authors tried to prepare a new filling material for bone defects using beta-Tricalcium phosphate (beta-TCP) particles and Histoacryl. The aim of this study was to evaluate physical and bioactive properties of cyanoacrylate-based filling materials for bone defects in the dental field. The shear bond strength values of the Histoacryl and beta-TCP/ Histoacryl compounds stored in double-distilled water decreased with the increase of the amount of added beta-TCP. The temperature change of the beta-TCP/ Histoacryl compounds during polymerization decreased compared to that of the Histoacryl. The cytotoxicity of the filling materials decreased when the amount of added beta-TCP was increased. In the evaluation of bioactivity, hydroxyapatite (HA) was precipitated on the surface and inner space of the porous filling material 4 weeks after immersion in SBF. This precipitation ofHA on the surface of the filling material was also confirmed in the XRD result. These results indicate that our novel beta-TCP/Histoacryl compounds have the potential to serve as filling materials for bone defects in the dental field.

**Descriptors:** BIOACTIVITY; **HYDROXYAPATITE**; ARTIFICIAL **TOOTH**; DENTAL FILLING ; BODY **FLUID**; TRICALCIUM PHOSPHATE; MATERIAL PROPERTIES
**Identifiers:** bioaktiver Zahnfuellstoff; Histoacryl; Hydroxyapatit; Tricalciumphosphat

9/5/50 (Item 3 from file: 144)

DIALOG(R)File 144: Pascal



01667971 PASCAL No.: 77-0439284

**ADHESIVE BOUNDING OF VARIOUS MATERIALS TO HARD TOOTH TISSUES. XII. ADSORPTION OF N-(2-HYDROXY-3-METHACRYLOXYPROPYL)-N-PHENYLGLYCINE (NPG-GMA) ON HYDROXYAPATITE.**

MISRA D N; DOWEN R L
AMERICAN DENTAL ASSOCIATION HEALTH FOUNDATION, N.B.S. WASHINGTON,D.C. 20234

Journal: J. COLLOID INTERFACE SCI., 1977, 61 (1) 14-20

Availability: CNRS-4124
No. of Refs.: 15 REF.
Document Type: P (SERIAL) ; A (ANALYTIC)
Country of Publication: USA
Language: ENGLISH

English Descriptors: ADSORBENT; INORGANIC ADSORBENT; **LIQUID** SOLID ADSORPTION; AMINOACID; **HYDROXYAPATITE**; CHEMISORPTION; **TEETH** ; ORGANIC BINDER
English Generic Descriptors: PHYSICAL CHEMISTRY

French Descriptors: AMINOACIDE; ADSORPTION LIQUIDE SOLIDE; CHIMISORPTION;
ADSORBANT MINERAL; ADSORBANT; APATITE HYDROXYLEE; DENT; LIANT ORGANIQUE;
GLYCINE(N-(HYDROXY-2 METHACRYLOYLOXY-3 PROPYL) N-PHENYL)
French Generic Descriptors: CHIMIE PHYSIQUE

Classification Codes: 170A16D

9/5/52 (Item 1 from file: 399)
DIALOG(R)File 399: CA SEARCH(R)


140205194 **CA:** 140(13)205194x PATENT
**Preparation for being fastened on a natural tooth part or tooth and corresponding fastening method**
**Inventor (Author):** Mayer, Jorg; Aeschlimann, Marcel; Torriani, Laurent
**Location:** Switz.
**Assignee:** Woodwelding Ag
**Patent:** U.S. Pat. Appl. Publ. ; US 20040038178 A1 **Date:** 20040226
**Application:** US 417909 (20030417) *CH 20021460 (20020823)
**Pages:** 12 pp.
**CODEN:** USXXCO
**Language:** English
**Patent Classifications:**
**Class:** 433169000; A61C-013/28A; A61C-008/00B; A61C-005/08B
**Section:**
CA263007 Pharmaceuticals
**Identifiers:** tooth filling material polymer
**Descriptors:**
Polyketones ...
aryl derivs.; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method
Prosthetic materials and Prosthetics ...
ceramic, implants; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method
Dental materials and appliances ...
composites; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method
Dental materials and appliances ...
dentures; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method
Dental materials and appliances ...
fillings; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method

Polyolefins ...
halogenated; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method
Tooth... Sound and Ultrasound... Polyolefins... Acrylic polymers,biological studies... Polyurethanes,biological studies... Polycarbonates,biological studies... Polyamides,biological studies... Polyesters,biological studies ... Polysulfones,biological studies... Polyimides,biological studies... Liquid crystals,polymeric... Polyoxymethylenes,biological studies... Polyethers,biological studies... Metals,biological studies... Polymers,biological studies ...
prepn. for being fastened on natural tooth part or tooth and corresponding fastening method
Ceramics ...
prosthetic implants; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method
Plastics,biological studies ...
thermoplastics; prepn. for being fastened on natural tooth part or tooth and corresponding fastening method
**CAS Registry Numbers:**
9016-75-5 prepn. for being fastened on natural tooth part or tooth and corresponding fastening method

16/5/40 (Item 4 from file: 8)
DIALOG(R)File 8: Ei Compendex(R)


0015177302 **E.I. COMPENDEX No:** 2002377076232
**Porous composites for adhering artificial cartilage to bone**

Zhang, Kai; Grimm, Mary E.; Lu, Qiwei; Oegema Jr., Theodore R.; Francis, Lorraine F.
**Corresp. Author/Affil:** Grimm, M.E.: Dept. of Chem. Eng. and Mat. Sci., University of Minnesota, Minneapolis, MN 55455, United States
**Conference Title:** Advanced Biomaterials-Characterization, Tissue Engineering and Complexity
**Conference Location:** Boston, MA United States **Conference Date:** 20011126-20011129
**E.I. Conference No.:** 59453
Materials Research Society Symposium - Proceedings ( Mater Res Soc Symp Proc ) ( United States ) 2002 711/- (213-218)
**Publication Date:** 20020912
**Publisher:** Materials Research Society
**CODEN:** MRSPD **ISSN:** 0272-9172
**Document Type:** Conference Paper; Conference Proceeding **Record Type:** Abstract
**Treatment:** A; (Applications); X; (Experimental)
**Language:** English **Summary Language:** English
**Number of References:** 10
Artificial cartilage can be grown from cultured chondrocytes, but adhering this tissue to

bone presents a challenge. Porous polymer/bioactive glass composites are candidate materials for engineering the artificial cartilage/bone interface and possibly other soft-to-hard tissue (ligament/bone, tendon/bone) interfaces. A phase separation technique was used to make porous polymer/bioactive glass composites. The composites (thickness: 200-500 mum) have asymmetric structures with dense top layers and porous structures beneath. The porous structures consist of large pores (>100 mum) in a network of smaller (<10 mum) interconnected pores. The dense layers were removed and large pores exposed by abrasion or salt leaching from the casting surface. The tissue bonding abilities of the composites were studied in vitro in simulated body fluid (SBF) and in rabbit chondrocyte culture. Culture studies revealed that composite surfaces were suitable for attachment, spreading and proliferation of chondrocytes. The growth of hydroxycarbonate apatite (HCA) inside and on the composites after soaking in the SBF for two weeks demonstrates their potential for integration with bone. The results indicate the potential for the composites to facilitate growth and attachment of artificial cartilage to bone.

**Descriptors:** Biocompatibility; Biopolymers; Body **fluids**; Bone; **Cartilage**; Composite materials; **Glass**; Growth kinetics; Phase separation; Porous materials; Tissue culture; *Biomaterials

**Identifiers:** Artificial cartilage; Bioactive glass composites; Hydroxycarbonate apatite; In vitro in simulated body fluid; Porous composites; Rabbit chondrocyte culture

**Classification Codes:**
461.9.1 (Immunology)
815.1.1 (Organic Polymers)
461.2 (Biological Materials)
462.5 (Biomaterials)
801.2 (Biochemistry)
802.3 (Chemical Operations)



0015134952 **E.I. COMPENDEX No:** 2002297018208

**Porous polymer/bioactive glass composites for soft-to-hard tissue interfaces**

Zhang, Kai; Ma, Yue; Francis, Lorraine F.

**Corresp. Author/Affil:** Francis, L.F.: Department of Chemical Engineering, University of Minnesota, 421 Washington Avenue SE, Minneapolis, MN 55455, United States

**Corresp. Author email:** lfrancis@tc.umn.edu

Journal of Biomedical Materials Research ( J. Biomed. Mater. Res. ) ( United States ) 2002 61/4 (551-563)

**Publication Date:** 20020915

**Publisher:** John Wiley and Sons Inc.

**CODEN:** JBMRB **ISSN:** 0021-9304

**Item Identifier (DOI):** 10.1002/jbm.10227

**Document Type:** Article; Journal **Record Type:** Abstract

**Treatment:** T; (Theoretical)
**Language:** English **Summary Language:** English
**Number of References:** 61
Porous composites consisting of a polysulfone (or cellulose acetate) matrix and bioactive glass particles were prepared by phase separation techniques. Microstructures were designed for potential application as an interconnect between artificial cartilage and bone. The effects of polymer type, concentration and molecular weight, as well as bioactive glass size and content, on the microstructures of the composites were studied. The composites have asymmetric structures with dense top layers and porous structures beneath. The microstructural features depend most strongly on the type of polymer, the interaction between the polymer and bioactive glass, and the glass content. The dense top layer could be removed by abrasion to make a structure with large pores (20-150 mum) exposed. Composites were immersed in simulated body fluid at body temperature. The growth of hydroxycarbonate apatite inside and on the composites demonstrates their potential for integration with bone. Composite modulus and break strength increased with increasing glass content due to the change in composition and pore content. (c) 2002 Wiley Periodicals, Inc.
**Descriptors:** Body **fluids**; Bone; **Cartilage**; Composite materials; Composition; **Glass**; Interfaces (materials); Microstructure; Molecular weight; Phase separation; Polysulfones; Porous materials; *Biomaterials
**Identifiers:** Bioactive glass particles
**Classification Codes:**
815.1.1 (Organic Polymers)
931.3 (Atomic & Molecular Physics)
812.3 (Glass)
802.3 (Chemical Operations)
641.1 (Thermodynamics)
462.5 (Biomaterials)
461.2 (Biological Materials)

INVENTORS

? **SHOW FILES**

```
File 350:Derwent WPIX 1963-2010/UD=201039
         (c) 2010 Thomson Reuters
File  35:Dissertation Abs Online 1861-2010/May
         (c) 2010 ProQuest Info&Learning
File  65:Inside Conferences 1993-2010/Jun 25
         (c) 2010 BLDSC all rts. reserv.
```

? **DS**

```
Set     Items   Description
S1          1   PN=US 20070160958
S2        195   AU=(BELIKOV A? OR BELIKOV, A?)
S3        342   AU=(ALTSHULER G? OR ALTSHULER, G?)
S4         44   (S2 OR S3) AND (TOOTH OR TEETH)
S5         43   S4 NOT S1
```

? **LOG OFF**

**Dialog eLink:** Order File History

1/25/1 (Item 1 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0015721243
WPI Acc no: 2006-284472/200629
Related WPI Acc No: 2008-N48929
XRAM Acc no: C2006-092752
XRPX Acc No: N2006-242738

**Tooth rejuvenation involves applying to tooth peroxide free composition of specific pH and comprising aqueous solution of edible acid and ions comprising elements e.g. calcium, phosphorous or fluoride in chelating agent**

Patent Assignee: REJUVEDENT LLC (REJU-N); ALTSHULER G (ALTS-I); BELIKOV A V (BELI-I)
Inventor: ALTSHULER G; BELIKOV A V; BELIKOV A

Patent Family ( 4 patents, 111 countries )

| Patent Number | Kind | Date | Update | Type |
|---|---|---|---|---|
| WO 2006039278 | A2 | 20060413 | 200629 | B |
| AU 2005292285 | A1 | 20060413 | 200707 | E |
| US 20070160958 | A1 | 20070712 | 200748 | E |
| EP 1855609 | A2 | 20071121 | 200780 | E |

Local Applications (no., kind, date): WO 2005US34606 A 20050929; AU 2005292285 A 20050929; US 2003514183 P 20031024; US 2005681630 P 20050517; US 2006596535 A 20060615; WO 2005US34606 A 20050929; EP 2005820890 A 20050929; WO

2005US34606 A 20050929
Priority Applications (no., kind, date): US 2003514183 P 20031024; US 2004614183 P 20040929; US 2005681630 P 20050517; US 2006596535 A 20060615

**Alerting Abstract** WO A2
NOVELTY - Tooth rejuvenation involves applying to a tooth a layer of a peroxide free composition (c1) comprising an aqueous solution of at least one edible acid and ions comprising the elements; optionally heating the composition to a temperature ^> 60(deg)C; and removing the composition from the tooth. The composition has a pH of 0.5 - 5.
DESCRIPTION - The elements are selected from calcium, chromium, barium, cadmium, magnesium, phosphorous, arsenic, silicon and/or fluorine in a chelating agent.
INDEPENDENT CLAIMS are included for the following:

1. a tooth rejuvenating composition (c1);
2. a tooth rejuvenating article of manufacture comprising a porous material and an aqueous solution of at least one edible acid;
3. a capsule comprising (c1);
4. an applicator for rejuvenating treatment involving impregnating a porous layer of the hard tissue with particles having a fluidity temperature lower than a melting temperature of the porous layer of a hard tissue, selectively heating the porous layer, and letting the material of the particles to solidify;
5. an apparatus for rejuvenating hard tissue or teeth;
6. a method of hard tissue modification or rejuvenation;
7. an apparatus for selective heating of a hard tissue surface.

USE - For rejuvenating hard tissue or teeth (claimed).
ADVANTAGE - The method/apparatus provides mechanical and chemical resistance of tooth substance and improves its esthetic appearance.


5/25/3 (Item 3 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0018428591
WPI Acc no: 2008-N48929/200878
Related WPI Acc No: 2006-284472
XRPX Acc No: N2008-991852
**Method for tooth rejuvenation and hard tissue modification, involves applying aqueous solution containing edible acids e.g. malic acid to hard tissue without requirement to protect soft tissue surrounding hard tissue**
Patent Assignee: ALTSHULER G B (ALTS-I); BELIKOV A V (BELI-I); GRISHIN V V

(GRIS-I)
Inventor: **ALTSHULER** G B; **BELIKOV A V**; GRISHIN V V

| Patent Family ( 1 patents, 1 countries ) | | | | |
|---|---|---|---|---|
| **Patent Number** | **Kind** | **Date** | **Update** | **Type** |
| US 20080280260 | A1 | 20081113 | 200878 | B |

Local Applications (no., kind, date): US 2004614183 P 20040929; US 2005681630 P 20050517; US 2005702460 P 20050725; WO 2005US34606 A 20050929; US 2006596535 A 20060615; US 2006828294 P 20061005; US 2007868449 A 20071005
Priority Applications (no., kind, date): US 2004614183 P 20040929; US 2005681630 P 20050517; US 2005702460 P 20050725; WO 2005US34606 A 20050929; US 2006596535 A 20060615; US 2006828294 P 20061005; US 2007868449 A 20071005

**Alerting Abstract** US A1
NOVELTY - Method of re-growing hard tissue, involves applying an aqueous solution to the hard tissue without a requirement to protect soft tissue surrounding the hard tissue, and re-growing the hard tissue at rate higher than 0.01 mu m per minute.
DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

1. composition for composition for re-growing hard tissue of an enamel layer at a growth rate higher than 0.01 mu m per minute; and
2. apparatus for hard tissue re-growth.

USE - The method is useful for **tooth** rejuvenation and hard tissue modification (all claimed), for enhancing mechanical hardness, chemical and/or bacterial resistance, restoration and/or improvement of cosmetic appearance such as whitening, color alternation and other improvements of **tooth**.

---


5/25/4 (Item 4 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0017880798 *Drawing available*
WPI Acc no: 2008-H01137/200844
XRAM Acc no: C2008-221579
XRPX Acc No: N2008-556221

**Method for forming superficial microtextured layer on surface of material for, e.g. tooth surface hard tissue modification, involves forming spatial pattern of microbeams with or without spatial overlapping between microbeams**

Patent Assignee: REJUVEDENT LLC (REJU-N)
Inventor: **ALTSHULER** G B; **BELIKOV A V**

| Patent Family ( 4 patents, 120 countries ) | | | | |
|---|---|---|---|---|
| **Patent Number** | **Kind** | **Date** | **Update** | **Type** |
| WO 2008067334 | A2 | 20080605 | 200844 | B |
| WO 2008067334 | A3 | 20080717 | 200848 | E |
| WO 2008067334 | A9 | 20080828 | 200857 | E |
| US 20100021867 | A1 | 20100128 | 201009 | E |

Local Applications (no., kind, date): WO 2007US85676 A 20071127; US 2006867315 P 20061127; WO 2007US85676 A 20071127; US 2009488673 A 20090622
Priority Applications (no., kind, date): US 2006867315 P 20061127; WO 2007US85676 A 20071127; US 2009488673 A 20090622

**Alerting Abstract** WO A2
NOVELTY - The method involves generating optical radiation in between 100-20000 nm. The radiation is used to form microbeams. A spatial pattern of microbeams with or without spatial overlapping between microbeams is formed. The spatial pattern is delivered to surface of material. A texture in the form of spatial pattern is formed on the surface of material by ablating, evaporating, photoetching or modifying surface and superficial layer of material by microbeams. The material is selected from dental enamel, dentin, dental cementum, composite resin, porcelain and amalgam.
DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

1. device for forming microtexture on surface of hard material;
2. method of hard tissue modification; and
3. method of modification of hard dental material.

USE - Method for forming superficial microtextured layer on surface of material for **tooth** surface hard tissue modification. Can also be used in treatment of other hard tissue such as nail tissue in human body and animal, orthopedic surgery, etc.
ADVANTAGE - The dental hard tissue can be prepared by laser micro ablation. The adhesion properties of different materials to hard tissue can be improved.
DESCRIPTION OF DRAWINGS - The drawing shows the schematic view of handpiece for micro perforation of hard tissue surface.
602 Laser
604 Optical system
605 Optical wedge
607 Mirror

609 Spacer

---


5/25/13 (Item 13 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0013822592 *Drawing available*
WPI Acc no: 2003-833599/200377
XRPX Acc No: N2003-666368
**Hard material e.g. tooth tissue processing apparatus, has laser rod to emit radiation, that is directed by optical tip to material, where pressurized water and air cleans surface of object**
Patent Assignee: ALTSHULER G (ALTS-I); ALTSHULER G B (ALTS-I); BELIKOV A V (BELI-I)
Inventor: **ALTSHULER** G B; **BELIKOV A V**; **BELIKOV A**

Patent Family ( 9 patents, 99 countries )

| Patent Number | Kind | Date | Update | Type |
|---|---|---|---|---|
| WO 2003086218 | A1 | 20031023 | 200377 | B |
| US 20040030326 | A1 | 20040212 | 200412 | E |
| AU 2003226326 | A1 | 20031027 | 200436 | E |
| EP 1494605 | A1 | 20050112 | 200504 | E |
| US 7267672 | B2 | 20070911 | 200761 | E |
| US 20080003536 | A1 | 20080103 | 200805 | NCE |
| US 20080021441 | A1 | 20080124 | 200810 | E |
| EP 1494605 | B1 | 20081015 | 200874 | E |
| DE 60324125 | E | 20081127 | 200882 | E |

Local Applications (no., kind, date): WO 2003US10768 A 20030409; US 2002371097 P 20020409; US 2003410578 A 20030409; AU 2003226326 A 20030409; EP 2003746659 A 20030409; WO 2003US10768 A 20030409; US 2002371097 P 20020409; US 2003410578 A 20030409; US 2003410578 A 20030409; US 2007767496 A 20070623; US 2002371097 P 20020409; US 2003410578 A 20030409; US 2007767495 A 20070623 ; EP 2003746659 A 20030409; WO 2003US10768 A 20030409; DE 60324125 A 20030409; EP 2003746659 A 20030409; WO 2003US10768 A 20030409
Priority Applications (no., kind, date): US 2002371097 P 20020409; US 2003410578 A 20030409; US 2007767496 A 20070623; US 2007767495 A 20070623

**Alerting Abstract** WO A1
NOVELTY - The apparatus has a laser rod emitting radiation that is applied through an optical fiber (1) fixed in a handle (2). The radiation is applied to an optical reflector (3) and the reflected radiation is directed through an optical tip (5) to a material e.g. hard **tooth** tissue. Pressurized water and air are applied from tanks (19,20) through respective tubes (14,33), and couplings (15,32) to clean a surface of the material.
DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for processing a hard material.
USE - Used for processing hard biological material e.g. dental enamel and bone, **tooth** tissue.
ADVANTAGE - The cleaning of a treatment zone of the hard material by pressurized water and air and keeping the irradiated surface of the material free of dirt ensures enhanced processing efficiency.
DESCRIPTION OF DRAWINGS - The drawing shows a partially cut-away illustration of a hard material processing apparatus.
1 Optical fiber
2 Handle
3 Optical reflector
4 Housing
5 Optical tip
19,20 Tanks
14,33 Couplings

---


5/25/18 (Item 18 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0008851758 *Drawing available*
WPI Acc no: 1998-398753/199834
XRPX Acc No: N1998-310230
**Treatment of tooth enamel and dentin - includes irradiation of tooth by laser pulse trains of 2 second length during energy of not less than 30 joules per square centimetre**
Patent Assignee: ALTSHULER G B (ALTS-I); BELIKOV A V (BELI-I)
Inventor: **ALTSHULER** G B; **BELIKOV A V**

| Patent Family ( 3 patents, 32 countries ) | | | | |
|---|---|---|---|---|
| **Patent Number** | **Kind** | **Date** | **Update** | **Type** |
| WO 1998030168 | A2 | 19980716 | 199834 | B |
| AU 199855010 | A | 19980803 | 199850 | E |
| RU 2127137 | C1 | 19990310 | 200023 | E |

Local Applications (no., kind, date): WO 1997RU404 A 19971211; AU 199855010 A 19971211; RU 1997100495 A 19970114
Priority Applications (no., kind, date): RU 1997100495 A 19970114

**Alerting Abstract** WO A2
The radiation from a laser (1) is directed along an optical fibre (4) of a radiation delivery device (3), while a tip (5) is intended for use by a doctor to direct the radiation onto a target **tooth** (7). During irradiation of the crown of a **tooth**, an attachment (6) is used. As the radiation passes out of the fibre, it is displaced by a light scattering head and is then reflected from the inner surface of a reflector.
Scattering is carried out at the focus of the reflector, set so that its second focus is inside the **tooth**. For irradiation of the side surface of the **tooth**, a different attachment is used. A power source and control unit (2), containing a power source, timer and a cooling system, is used to control the treatment process. The laser pulse density is 10-200 joules per square centimetre during 5 second pulse trains and pulse length of 100-300 milliseconds.
USE - Modification of **tooth** enamel and dentin.
ADVANTAGE - Increase of micro-hardness and acid resistance of **tooth**.


5/25/19 (Item 19 from file: 350)
DIALOG(R)File 350: Derwent WPIX


0008667012 *Drawing available*
WPI Acc no: 1998-205353/199818
XRPX Acc No: N1998-163112
**Laser procedure for treating hard tissues of teeth - using pulsed light beam to determine type of tissue being treated**
Patent Assignee: ALTSHULER G B (ALTS-I)
Inventor: **ALTSHULER** G B; EROFEEV A V

| Patent Family ( 1 patents, 1 countries ) | | | | |
|---|---|---|---|---|
| **Patent Number** | **Kind** | **Date** | **Update** | **Type** |
| RU 2089127 | C1 | 19970910 | 199818 | B |

Local Applications (no., kind, date): RU 199440344 A 19941102
Priority Applications (no., kind, date): RU 199440344 A 19941102

**Alerting Abstract** RU C1
The procedure consists of recording the intensity of a light pulse in the 350 - 500 Nm waveband reflected from the **tooth** to determine the type of tissue being treated. The pulse is used at the same time to measure the time delay between pulses as an aid to precise determination of tissue type.
The apparatus used for the procedure comprises a pulsed laser beam generator (1), a sapphire fibre feeder (3) and focusing system (4). It also incorporates a camera (5), a pulse amplitude meter (6) and an indicator (7).
ADVANTAGE - Reduced risk of causing trauma for patient when treating caries or forming prosthesis with air of laser equipment.